

REMARKS

This amendment is in response to the Official Action mailed March 7, 2006. In the present paper, claims 1, 2, 7, 8, 14 and 15 are amended. Claims 1-19 are now presented for consideration by the Examiner.

Obviousness Rejections

In the Official Action, the Examiner rejected of claims 1-7 and 11-19 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,964,815 to Wallace et al. (“Wallace”) in view of U.S. Patent No. 4,468,612 to Starr (“Starr”), and rejected claims 8-10 under 35 U.S.C. § 103(a) as unpatentable over Wallace in view of Starr and further in view of U.S. Patent No. 6,988,670 to Keen et al. (“Keen”) and further in view of U.S. Patent Publication No. 2004/0014418 to Farag et al. (“Farag”).

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. M.P.E.P. § 2143.03 (*citing In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)).

Applicant submits that the claims as amended and now presented are patentable over the cited references.

The Wallace reference, which is the primary reference relied on by the Examiner, teaches an air bag restraint system in which devices 12 on a control interconnection 44 contain electronic switches 54 that regulate communication between a controller 38 and any devices downstream of the device (Wallace, Abstract; col. 5, line 66 – col. 6, line 27; FIG. 1).

Wallace further teaches that each of the switches 54 is in an “off” or “open” position until the associated device 12 is programmed by the controller 38, and until control circuitry 18 in the

device 12 subsequently closes the switch (Wallace, col. 6, lines 28-30 & 62-65; col. 7, lines 9-12).

The Examiner combines Wallace with Starr, which is cited as teaching connectors.

Apparatus Claims 1-10

Claim 1 of the present application has been amended to require that each of the first and second pluralities of electrical couplings have electrical contacts. The last clause now further requires:

wherein sequential engagement of the electrical contacts of the corresponding one of the second plurality of electrical couplings with the electrical contacts of the first through the last ones of the first plurality of electrical couplings increases a closed path of detected and identified devices, as recognized with the controller.

By increasing a closed path of devices by sequential engagement of contacts in the connectors, the system of the present invention can ensure that the devices 52, 54, 56 are connected in sequential order along a wiring harness (Present Specification at [0017]).

As noted by the Examiner, sequential electrical connection of the devices to the harness in Wallace is accomplished “via programming and the normally open switches/ports” (Official Action at 2). Wallace does not teach or suggest increasing the closed path of devices by sequentially engaging electrical contacts in couplings. Instead, a closed path is not created in the Wallace system until after the device 12 is connected and after the device is programmed, and not until the connected and programmed device closes the electronic switch 54 (Wallace, col. 8,

lines 39-43). Wallace therefore does not teach sequential engagement of the electrical contacts of couplings increasing a closed path of devices, as required by amended claim 1.

Combining the Starr connectors with the Wallace system does not cure the deficiencies of Wallace. Even with the Starr connectors, sequential engagement of contacts in the connectors does not increase a closed path of devices in the proposed combination. Instead, the closed path is not increased until after the contacts in the connectors are engaged and after the device is programmed, when the programmed device can close the electronic switch 54. No closed path is increased by connecting the device.

At least because the combination of Wallace and Starr does not teach that sequential engagement of electrical contacts of the couplings increases a closed path of devices, Applicant submits that claim 1 is patentable over those references.

Applicant has amended claims 2 and 7 to make those claims consistent with the amended language of claim 1. It is submitted that dependent claims 2-7, which depend from claim 1 and incorporate its limitations, are patentable at least for the reasons set forth in reference to claim 1.

Independent claim 8 has been amended in a manner similar to that of claim 1. Applicant therefore submits that claim 8, together with claims 9 and 10 which depend therefrom, are patentable for the same reasons set forth above with reference to claim 1.

Method Claims 11-13

Original claim 11 requires the steps of:

identifying with the controller a first one of the devices
when an electrical connection via a first one of the ports creates a
closed path; and

identifying with the controller a second one of the devices
when an electrical connection via a second one of the ports
expands the closed path.

In contrast to the claimed steps, an electrical connection via a first one of the ports in the
theoretical system of Wallace in view of Starr does not create a closed path. Instead, the device
12 must first be connected to the controller and programmed before the path is created:

After the central controller 38 has finished programming
(i.e., establishing an address) the restraint system device 12A, the
control circuitry 18A "closes" the electronic switch 54A by
controlling the control node 76A (i.e., the gate 74A of the N-
channel MOSFET 64). Specifically, prior to the restraint system
device 12A being programmed, the control circuitry 18A biases the
MOSFET 64 "OFF". When the MOSFET 64 is "OFF", the return
port 62A of the restraint system device 12A is not connected to the
daisy chain port 72A of the restraint system device 12A. Once the
restraint system device 12A is programmed, the control circuitry
18A biases the MOSFET 64A "ON". This, in effect, "closes" the
switch 54A which connects the return port 62A to the daisy chain
port 72A. The return port 62B of the next restraint system device
12B (device 2) is connected to the central controller 38 through the
electronic switch 54A of the first restraint system device 12A
(device 1).

(Wallace, col. 8, lines 39-55). Combining the connectors of Starr with the Wallace system does
not change the teaching of Wallace to close the switch AFTER the device is connected.

Because Wallace in view of Starr does not teach an electrical connection via a first one of
the ports creating a closed path, Applicant submits that claim 11, together with dependent claims
12 and 13, are patentable over those references.

Method Claims 14-19

Independent method claim 14 has been amended to require:

wherein the defining the closed path consists of electrically connecting the first recognized one of the plurality of devices across a first one of the plurality of ports, the first one of the plurality of ports being located along the harness closest to the controller.

In contrast, defining the closed path in the theoretical system of Wallace in view of Starr does not consist of electrically connecting the first recognized one of the plurality of devices across a first one of the plurality of ports. As noted above, Wallace requires that the devices 12 be programmed, and that control circuitry 18 in the programmed devices 12 closes the switches 54 to connect downstream devices in the daisy chain.

Independent method claim 14, as amended, is therefore non-obvious over the cited references because those references, either alone or in combination, do not disclose defining the closed path consisting of electrically connecting the first recognized one of the plurality of devices across a first one of the plurality of ports.

Dependent claim 15, which contained the limitation added to claim 14, has been amended to remove that now-redundant limitation. Applicant submits that dependent claims 15-19, which incorporate the limitations of claim 14, are patentable for at least the same reasons discussed above with reference to claim 14.

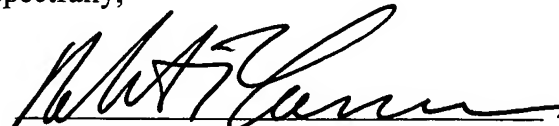
Conclusion

Applicant therefore respectfully asserts that claims 1-19 are now in condition for allowance, and earnestly requests that the Examiner issue a Notice of Allowance.

Should the Examiner have any questions regarding the present case, the Examiner should not hesitate in contacting the undersigned at the number provided below.

Respectfully,

By



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